



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; SP-12(10): 1869-1872
© 2023 TPI
www.thepharmajournal.com
Received: 14-07-2023
Accepted: 18-08-2023

Pritisha Kumar Padhy
M.V.Sc. Scholar, Post Graduate
Department of Poultry Science,
College of Veterinary Science and
Animal Husbandry, O.U.A.T.,
Bhubaneswar, Odisha, India

Lipismita Samal
Assistant Professor, Post
Graduate Department of Poultry
Science, College of Veterinary
Science and Animal Husbandry,
O.U.A.T., Bhubaneswar, Odisha,
India

Susanta Kumar Dash
Professor and Head, Post
Graduate Department of Poultry
Science, College of Veterinary
Science and Animal Husbandry,
O.U.A.T., Bhubaneswar, Odisha,
India

Geeta Rani Jena
Assistant Professor, Department
of Veterinary Clinical Medicine,
College of Veterinary Science and
Animal Husbandry, O.U.A.T.,
Bhubaneswar, Odisha, India

Corresponding Author:
Pritisha Kumar Padhy
M.V.Sc Scholar, Post Graduate
Department of Poultry Science,
College of Veterinary Science and
Animal Husbandry, O.U.A.T.,
Bhubaneswar, Odisha, India

Contribution of backyard poultry farming in the livelihood of Paroja tribes of Koraput district

Pritisha Kumar Padhy, Lipismita Samal, Susanta Kumar Dash and Geeta Rani Jena

Abstract

The purpose of the study was to evaluate the contribution of backyard farming in the livelihood of tribal farmers in the Paroja community, to assess the socio-economic aspects of tribal farmers. A total of 221 respondents were chosen at random from two blocks in the Koraput district i.e, Laxmipur and Dashmantpur. Through the participatory rural appraisal method, data was collected directly from respondents through a questionnaire schedule. According to the data, the majority of farmers were male, belonged to the older age group, had low educational qualifications (primary or middle level schooling), and had small or medium flock sizes. Backyard poultry farming had a moderate impact on farmers' social welfare. The chi-square test revealed a significant ($p < 0.05$) dependency between the parameters education and flock size.

Keywords: Paroja community, backyard poultry, livelihood, chi-square test

1. Introduction

Poultry is one of the agricultural sector's subsidiaries for economic and social development. In rural India, backyard chicken rearing is a long-standing tradition. The majority of backyard poultry production consists of raising indigenous birds with low productivity. In terms of egg production, indigenous birds have a lot of promise. Backyard poultry accounts for 17.8% (18.41 billion) of India's total egg output (103.32 billion) (BAHS 2019). Only 70 to 80 eggs per bird are produced each year, and meat production is also relatively low. Backyard chickens, on the other hand, with improved poultry breeds, productivity can readily be increased, promising better meat and egg production. Backyard poultry is a convenient venture for traditional farmers with a minimal initial investment, great economic return, and a promise of improving protein deficiency among the poor. Poultry populations have increased dramatically over the world, with wealthy countries seeing a 23 percent increase and developing ones seeing a 76 percent increase. In regions where a large share of the population keeps some poultry birds, there is evidence that investments in small-scale poultry farming generate handsome returns and contribute to poverty reduction and increased food security (Mack, *et al.*, 2005) [8]. Increased backyard poultry productivity can help to alleviate poverty and reduce malnutrition on a large scale. An average flock size of 8 to 12 birds is kept by a landless/marginal/small-scale Indian poultry rearing household. Over half of India's landless and marginal farmers rely on poultry and small ruminant rearing, according to estimates. In rural places, there is a huge potential for improving backyard poultry to provide jobs, a source of income, and food security. The emphasis on exotic poultry breeds, which often do not thrive in rural areas due to insufficient extension services, a shortage of chicken feed, a lack of technical knowledge that either does not reach the poor or a lack of understanding about scientific raising. These factors are currently limiting poultry's contribution to rural livelihoods. Poultry and humans have had a long history together, which is still going on and will continue in the future (Alders 2012) [2]. According to Pathak and Nath (2013) [16], livestock and poultry husbandry is a critical aspect in improving the nutritional security of India's rural people. Farmers mainly raise desi/ native type chickens in backyard farming systems, which have minimal egg and meat production potential. The majority of these indigenous strains do poorly in terms of yield. In Odisha, rural households raise desi/native chickens in groups of 5 to 25 under the traditional scavenging system, which offers food and financial stability while also having socio-cultural and socio-religious importance. Hansli, Gujuri, Dumasil, Vezaguda, Dhinki, Phulbani, and Kalahandi fowls are common indigenous or desi chicken varieties raised

in Odisha (Mohapatra *et al* 1999; Sethi 2007) [13, 24]. Despite being slow growers and poor layers, native chickens make wonderful mothers and sitters, are outstanding foragers, are resilient, and naturally immune to common diseases (Rajkumar *et al.* 2017) [20].

2. Materials and Methods

Through a participatory approach in different locations of Koraput, the current study was conducted to analyse the existing rearing practice of backyard poultry.

2.1 Site Selection

Koraput district was chosen specifically because of the larger availability of backyard poultry in that area, as well as the rural tribal people's interest in raising indigenous birds. Through a Participatory Approach, data for the study was obtained from backyard poultry farmers utilising a set of well-structured questionnaires. Data on the respondents' socioeconomic status, productivity, management techniques, expenses and returns related to backyard chicken production were collected.

2.2 Sampling Procedure and Sample Size

2.2.1 Selection of Blocks

Two blocks, Laxmipur, Dashmantpur were selected purposively as Paroja people were mainly found in this region. Almost 90 percent of Paroja people in these regions rear poultry in their backyard as additional occupation to the primary occupation.

2.2.2 Selection of respondents

Respondents for the study were poultry producers who raised more than 5 birds in their backyard. Respondents were chosen at random from each village, resulting in a total sample of 221 backyard poultry owners drawn from the villages over two blocks in the Koraput area.

2.3 Methods of Data Collection

Participatory Rural Appraisal method was used to formulate the questionnaire and all the data were collected directly from the respondents using this questionnaire.

Information collected (Socio economic parameters): Name of the respondents, Gender of the respondents, Age of the respondents, Educational qualifications respondents, Availability of land, Flock size.

2.4 Methods of Data Analysis

The information was entered into MS Excel sheets and SPSS files. To analyse socioeconomic characteristics and management practices, descriptive statistics such as means, standard deviation, and percentages were employed. Frequency Analysis-Chi-square test of independence was undertaken to examine whether dependency existed between block (place) and individual socio-economic factors of poultry farmers under study with.

3. Results and Discussion

The socio-economic status of backyard poultry farmers like age, education, gender etc. and their variation across different flock sizes are shown in tabular form. Table 1: Among the 79 female beneficiaries 31(39%) have a flock size of 20-30, while 25(32%), 23(29%) have flock size <20 and >30, respectively. For 142 male beneficiaries maximum proportion i.e., 61(43%) have a flock size of 20-30. While similar

number of male farmers i.e., 40(28%), 41(29%) have flock sizes <20 and >30. The total number of farmers belonging to <30 years age group is 59 among which 30(51%) have a flock size of 20-30, further the farmers having a flock size of <20 and > 30 were 14 (24%) and 15(25%) respectively. Among the 79 farmers falling under 30 to 45 years category 32(40%) had a flock size of 20-30, and the farmers falling under <20 and >30 flock size are 26 (33%) and 21 (27%) respectively. Among the 83 farmers of older age group i.e., >45 years almost similar number of farmers i.e., 25 (30%), 30(36%), 28(34%) had a flock size of <20, 20-30 and >30. As far as education is concerned among the 79 illiterate farmers maximum proportion i.e., 37(47%) had a flock size of 20-30, whereas the illiterate farmers having a flock size of <20 and >30 were 25(32%) and 17(21%), respectively. Among the 101 farmers who had primary education i.e., up to 8th std. 32(32%), 43(43%) farmers had a flock size of <20 and 20-30 respectively, but the farmers having flock more than >30 is 26 in number i.e., 25%. Within all the 41 educated farmers i.e., above 8th std. 8(20%), 12(29%), 21(51%) farmers have flock sizes of <20, 20-30, >30, respectively. There was no dependency of social factors like gender, age with flock size ie, (the number of birds reared) in present study as the chi-square values of 0.378 and 3.882 were insignificant. This implies the trend of distribution of farmers for all the two genders is similar across all the three types of flock sizes. Similarly the distribution of farmers according to age was similar across all the three types of flock sizes. But there was dependency between education and flock size of farmers in the present study as the chi-square value of 12.605 was significant. This implies the trend of distribution of farmers for all the three education types was not similar across all the three types of flock sizes. According to our findings, the majority of farmers (41.6%) kept sizes of 20-30 birds, while (29%) kept big flock sizes of more than 30 birds. (29.4%) of farmers kept a tiny flock of fewer than 20 birds. Similar findings were reported by Kothandaraman (2019) [7] who discovered that majority of respondents had a medium flock size, with a few having big flock size due to insufficient managerial knowledge.

Table 1: Frequency Distribution of farmers with regard to gender, age and education across flock size

Factors		Flock size			Total	χ^2
		<20	20-30	>30		
Gender	Female	25	31	23	79	0.378
	(%)	31.6	39.2	29.1	100.0	
	Male	40	61	41	142	
	(%)	28.2	43.0	28.9	100.0	
Age	<30yr	14	30	15	69	3.882
	(%)	23.7	50.8	25.4	100.0	
	30-45yr	26	32	21	79	
	(%)	32.9	40.5	26.6	100.0	
	>45yr	25	30	28	83	
	(%)	30.1	36.1	33.7	100.0	
Education	No schooling	25	37	17	79	12.605*
	(%)	31.6	46.8	21.5	100.0	
	Up to 8 th std	32	43	26	101	
	(%)	31.7	42.6	25.7	100.0	
	Above 8 th std	8	12	21	41	
	(%)	19.5	29.3	51.2	100.0	
Total	N	65	92	64	221	
	(%)	29.4	41.6	29.0	100.0	

Chi-square formula-

$$X^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{i,j} - E_{i,j})^2}{E_{i,j}}$$

4. Conclusion

Backyard poultry farming helped to enhance the socioeconomic situation of rural tribal farmers in the Koraput district by providing employment. Due to excessive mortality and a lack of management knowledge, the production performance of backyard poultry birds was poor. Tribal farmers had some additional income per year by maintaining a small flock size, which helped them improve their financial condition. Disease control and effective management were limited in the study area hence occurrence of diseases and predation were major challenges faced by tribal farmers.

5. References

1. Abdelqader A, Wollny CBA, Gauly M. Characterization of local chicken production systems and their potential under different levels of management practice in Jordan. *Tropical animal health and production*. 2007;39(3):155-164.
2. Alders RG. Challenges and opportunities for small-scale family poultry production in developing countries. XXIV World's Poultry Congress, Salvador, Brazil, 5-9 August, 2012. *World's Poultry Science Journal*. 2012;68:(Suppl.1):153.
3. BAHs. Basic Animal Husbandry Statistics. Department of Animal Husbandry and Dairying. Ministry of Fisheries, Animal Husbandry and Dairying, Government of India; c2019.
4. Chauhan NM, Patel N, Patel V. Extensive research is done in India for development of poultry sector. *International Journal in Management and Social Science*. 2015;03(4):284-291.
5. Deka P, Borgohain R, Deka B. Status and constraints of backyard poultry farming amongst tribal community of Jorhat district in Assam. *Asian J Animal Sci*. 2013;8(2):86-91.
6. Khandait VN, Gawande SH, Lohakare AC, Dhenge SA. Adoption level and constraints in backyard poultry rearing practices at Bhandara District of Maharashtra (India). *Research Journal of Agricultural Sciences*. 2011;2(1):110-113.
7. Kothandaraman S, Varadarajan A, Gnanasekar R. Present scenario and constraints in the rural backyard Poultry Production in Cuddalore district of Tamil Nadu, *International Journal of Basic and Applied Research*. 2019;9(3):675-683.
8. Mack S, Hoffmann D, Otte J. The contribution of poultry to rural development. *World's poultry science journal*. 2005;61(1):7-14.
9. Mandal MK, Khandekar N, Khandekar P. Backyard poultry farming in Bareilly district of Uttar Pradesh, India: an analysis. *Livestock Research for Rural Development*, 2006, 18(7).
10. Maphosa T, Kusina J, Kusina NT, Makuza S, Sibanda S. A monitoring study comparing production of village chickens between communal (Nharira) and small-scale commercial (Lancashire) farming areas in Zimbabwe. *Livestock Research for Rural Development*, 2004, 16(7).
11. Mapiye C Sibanda S. Constraints and opportunities of village chicken production systems in the smallholder sector of Rushinga district of Zimbabwe. *Livestock Research for Rural Development*, 2005, 17(10).
12. Mishra J, Das BC, Swain P, Sweta K. Socio-economic variability of tribal backyard poultry farmers of Koraput district, Odisha. *The Pharma Innovation Journal*. 2020;9(9s):01-03.
13. Mohapatra SC, Mishra SC, Korel D. Indigenous poultry genetic resources of Orissa; c1999. Retrieved September 10, 2015, from <http://intercooperation.org.in>
14. Muchadeyi FC, Sibanda S, Kusina NT, Kusina JF, Makuza SM. Village chicken flock dynamics and the contribution of chickens to household livelihoods in a smallholder farming area in Zimbabwe. *Tropical Animal Health and Production*. 2005;37(4):333-344.
15. Patbandha T, Pathak R, Maharana B, Marandi S, Sardar K. 2016. Traditional rural chicken production in northern Odisha: Gender role and decision making. *International journal of science, Environment and Technology*. 2005;5(2):489-498.
16. Pathak PK, Nath BG. Rural poultry farming with improved breed of backyard chicken. *J World's Poult. Res*. 2013;3(1):24-27.
17. Patra J, Singh DV. Backyard poultry farming, a suitable Intervention for Tribal people for their livelihood support and Nutritional security. *International Journal of Humanities and Social Science Innovation*. 2016;5(6):22-26.
18. Pedersen CV. Production of semi-scavenging chickens in Zimbabwe (Doctoral dissertation, Royal Veterinary and Agricultural University, Department of Animal Science and Animal Health, Division of Tropical Animal Husbandry); c2002.
19. Rahman S. Status and Constraints of Backyard Poultry Farming in Mizoram. *Indian Journal of Hill Farming*; c2017. p. 76-82.
20. Rajkumar U, Haunshi S, Paswan C, Raju MV, Rao SR, Chatterjee RN. Characterization of indigenous Aseel chicken breed for morphological, growth, production and meat composition traits from India. *Poultry Science*. 2017;96(7):2120-2126.
21. Rajkumar U, Rao SR, Raju MVLN, Chatterjee RN. Backyard poultry farming for sustained production and enhanced nutritional and livelihood security with special reference to India: a review. *Tropical Animal Health and Production*. 2021;53(1):1-13.
22. Riise JC, Kryger KN, Seeberg DS, Christensen P. Impact of smallholder poultry production in Bangladesh—12 years experience with Danida supported livestock projects in Bangladesh. Danida, Ministry of Foreign Affairs, Copenhagen, Denmark; c2005.
23. Sarma M, Islam R, Borah MK, Sharma P, Mahanta JD, Kalita N, Bhattacharyya BN. Comparative performance of Vanaraja, Srinidhi and Desi chicken under traditional system among tribal community of Assam. *Indian Journal of Animal Research*. 2018;52(10):1518-1520.
24. Sethi B. Backyard Poultry in Orissa. *Orissa Review*; c2007. Retrieved September 1, 2015 <http://orissagov.nic.in/e-magazine/Orissareview/jan-2007/engpdf/48-52.pdf>
25. Varadharajan A, Gnanasekar R. Sustainable rural development through Backyard Poultry Farming in Cuddalore district, Tamil Nadu. *Indian Journal of Poultry Science*. 2019;54(2):181-183.

26. Weyuma H, Singh H, Megersa M. Studies on management practices and constraints of back yard chicken production in selected rural areas of Bishoftu. *British Journal of Poultry Sciences*. 2015;4(1):01-11.
27. Yhome E, Sapkota D, Saharia KK. Poultry farmers of Kohima and Dimapur districts of Nagaland-a profile. *Tamilnadu Journal of Veterinary and Animal Sciences*. 2011;7(4):210-212.